

# Urban Development and Resilience in the Kingdom of Bahrain: A 3D-enabled National Geospatial Programme for a Sustainable Future

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**Key words:** Cadastre; Capacity building; Cartography; Coastal Zone Management; Digital cadastre; e-Governance; Engineering survey; Geoinformation/GI; GIM; GSDI; Hydrography; Implementation of plans; Land management; Photogrammetry; Professional practice; Real estate development; Spatial planning; Standards; Valuation

## SUMMARY

Manama, 2020. Bahrain is an island state in the Arabian Gulf with a surface area of 783 square kilometres and a population of over 1.5 Million. The Survey and Land Registration Bureau (SLRB) is the government body in charge of land and property registration, cadastral survey, national mapping, and charting of the land and sea of the Kingdom of Bahrain.

SLRB underpins the national economy by providing confidence in land transactions and securing property ownership that contributes to over 8.4% of GDP through real estate and construction activities. SLRB generates over 20 Million BHD annually through property services and registration duties to the Ministry of Finance and National Economy consolidated revenue and registers transactions of property valued over 1 Billion BHD annually. Ranked 17th globally for ease of registering property and 3rd in the MENA region, Bahrain's competitiveness and attractiveness for investment is greatly improving with the implementation of a broad suite of real estate reforms including the establishment of the Real Estate Regulatory Authority (RERA) providing strength and confidence in the property market through improved regulation of property development, introduction of valuation standards, licensing and professional development of real estate practitioners.

The United Nations Committee of Experts for Global Geographic Information Management (UN-GGIM) recognises the important role of geospatial information to a nation's development and supporting the monitoring and reporting of the Sustainable Development Goals (SDGs). Modernisation of national mapping supports the Kingdom's ambitious infrastructure and development march by greatly improving the accuracy and reliability of geospatial information essential for planning, decision making, infrastructure and services, housing and urban development, and the improved integrated management of the land and marine

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environments.

"To provide trusted high-quality land information services, expertise and to be a model for Government sector management through investing in excellence to support the future needs of the Kingdom of Bahrain"

SLRB's vision of progressing towards a modern object feature based national mapping environment will ensure Bahrain's readiness for a future of 3D City modeling based planning and informed decision making. This paper will introduce SLRB's National 3D Mapping Project: a comprehensive digital transformation programme that is the foundation of a geospatial ready nation.

By harnessing world class geospatial technologies and fostering local capabilities, SLRB is striving to ensure Bahrain is a leader in building the knowledge based digital economy directly contributing to Bahrain's Economic Vision 2030, the Government Program, and the National Fiscal Balance programme.

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